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forming first and second electrodes on first and second substrates;
forming a first orientation film having a ferroelectric liquid crystal polymer on the first electrode;
forming a second orientation film on the second electrode; and
forming a nematic liquid crystal layer between the first and second substrates.

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the subject application. The non-final Office Action of November 20, 2002 has been received and contents carefully reviewed.

Applicant hereby resubmits the Declaration, which correctly includes the residence information. Applicant had inadvertently exchanged the signature pages of the Declaration and Assignment, which were previously submitted.

In the Office Action, the Examiner noted an informality of Oath/Declaration; rejected claims 1-2 under 35 U.S.C. § 103(a) as being unpatentable over Vorfloussev (U.S. Patent No. 5,973,762) in view of Reimer et al. (U.S. Patent No. 5,844,651); rejected claims 3-5 under 35 U.S.C. § 103(a) as being unpatentable over Vorfloussev and Reimer et al. as applied to claim 1 above, and further in view of Yoshinaga et al. (U.S. Patent No. 5,372,745); rejected claims 6-11 under 35 U.S.C. § 103(a) as being unpatentable over Vorfloussev and Reimer et al. as applied to claim 1 above, and further in view of Mitsui et al. (U.S. Patent No. 5,734,457); rejected claims 12-13 under 35 U.S.C. § 103(a) as being unpatentable over Vorfloussev and Reimer et al. as applied to claim 1 above, and further in view of Yoshinaga et al. (U.S. Patent No. 4,995,705); rejected claims 14-17 under 35 U.S.C. § 103(a) as being unpatentable over Vorfloussev, Reimer et al. and Yoshinaga et al. as applied to claim 12 above, and further in view of Mitsui et al. Applicants respectfully traverse these rejections.

By this Amendment, Applicant amends claims 1 and 12. Accordingly, claims 1-17 are currently pending in the present application. Reexamination and reconsideration of the application are respectfully requested.

Applicant respectfully submits that independent claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, “a nematic liquid crystal layer between the first and second substrates, wherein said first orientation film includes a ferroelectric liquid crystal polymer.” None of the cited references including Vorfloussev, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that independent claim 1 and claims 2-11, which depend therefrom are allowable over the cited references.

In rejecting claims 6-11, the Examiner states at page 4 of the Office Action,

“Mitsui on the other hand, in disclosing a similar liquid crystal display device discloses a nematic liquid crystal twisted at an angle of 90 degrees (Col. 6, lines 36-37) and two polarizers (28,29) and their orientation axes. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the twisted nematic liquid crystal layer and the polarizers as disclosed by Mitsui to the display device disclosed by Vorfloussev and Scherowsky to produce portable devices.”

Applicant respectfully submits that the cited references fail to provide sufficient motivation for one of ordinary skill in the art to combine the cited references. Vorfloussev relates to a ferroelectric liquid crystal display that utilizes a ferroelectric liquid crystal material for light modulation. In other words, the ferroelectric liquid crystal display has its own set of operation principles and problems as compared with the liquid crystal displays having a nematic liquid crystal material. Applicant respectfully submits that the only motivation to combine the references comes from the teachings of the present invention and not from the cited references, which is an impermissible hindsight.

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Applicant respectfully submits that independent claim 12 is allowable over the cited references in that claim 12 recites a combination of elements including, for example, "forming a first orientation film having a ferroelectric liquid crystal polymer on the first electrode; forming a second orientation film on the second electrode; and forming a nematic liquid crystal layer between the first and second substrates." None of the cited references including Vorfloussev, singly or in combination, teaches or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that independent claim 12 and claims 13-17, which depend therefrom, are allowable over the cited references.

Applicants believe the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

Should the Examiner deem that a telephone conference would further the prosecution of this application, the Examiner is invited to call the undersigned representative at (202) 496-7500.

If these papers are not considered timely filed by the Patent and Trademark Office, then a Petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response period may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit account no. 50-0911.

Dated: February 20, 2003

Respectfully submitted,

By 

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) A liquid crystal display device comprising:

a first substrate [have] having a first electrode and a first orientation film on the first electrode[, wherein said first orientation film includes a ferroelectric liquid crystal polymer];

a second substrate having a second electrode and a second orientation film on the second electrode; and

a nematic liquid crystal layer between the first and second substrates[.],

wherein said first orientation film includes a ferroelectric liquid crystal polymer.

12. (Amended) A method for fabrication a liquid crystal display device, comprising:

forming first and second electrodes on first and second substrates;

forming a first orientation film having a ferroelectric liquid crystal polymer on the first electrode;

forming a second orientation film on the second electrode; and

forming a nematic liquid crystal layer between the first and second substrates.